# SUPPLEMENTAL INFORMATION:

## Geomagnetic field influences upward movement of young Chinook salmon emerging from nests

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**Figure S1.** Vertical orientation experimental setup at the Oregon Hatchery Research Center. A clear aquarium containing cylindrical testing arenas was centered within a coil system consisting of 4 squares (100 cm by 100 cm) with 26 loops of wire at the base and top frame, 11 loops of wire around each of the middle two frames. The coil was based on the design of Merritt et al. (1983) and powered with a DC power supply that manipulated the vertical component of the magnetic field. The entire experimental apparatus was enclosed within black plastic to minimize lighting from extraneous sources.

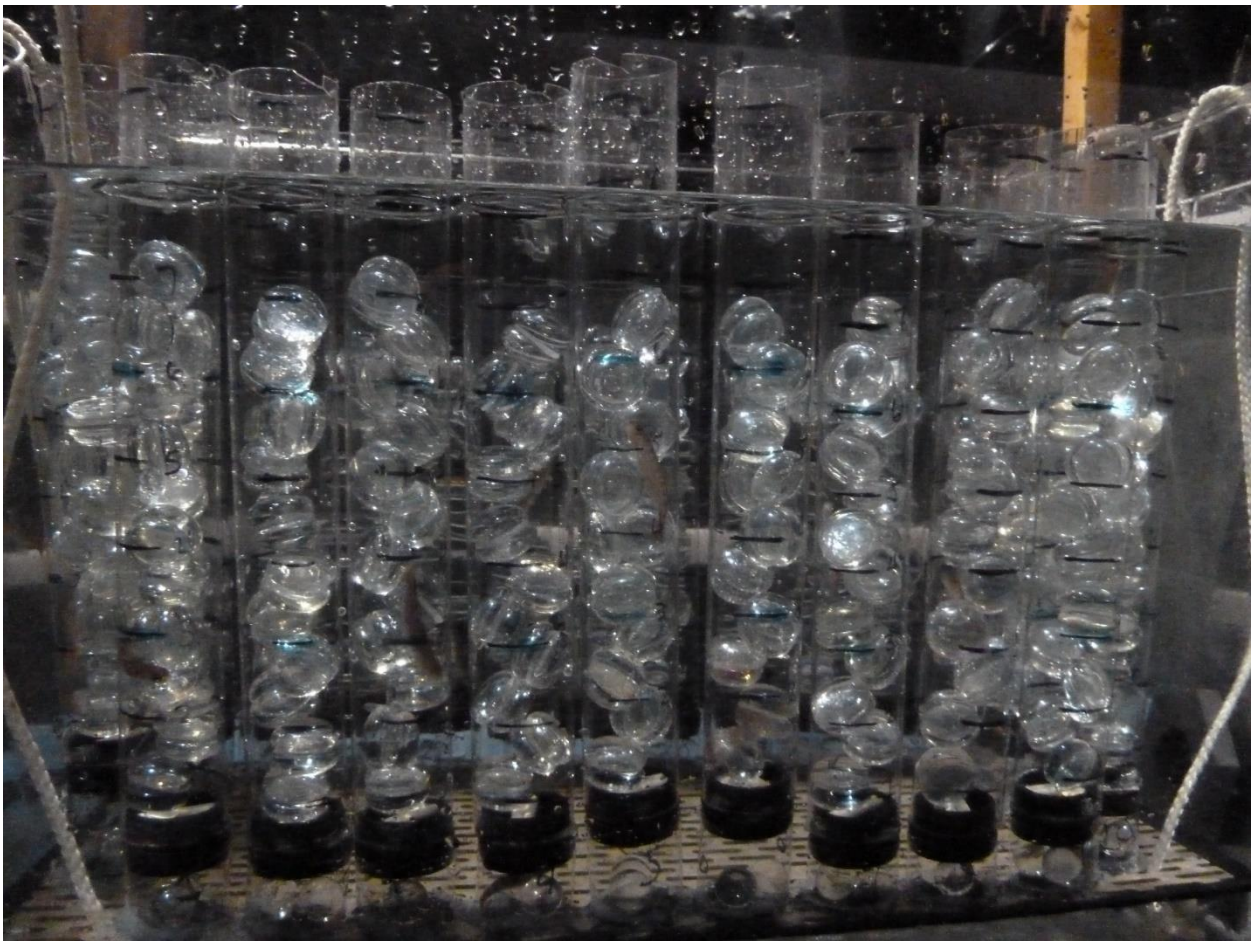

**Figure S2.** Close up of clear aquarium and cylindrical testing arenas. Arenas were filled with glass marbles (1.9 cm diameter) to simulate substrate. Horizontal marks (2.5 cm spacing) on each tube served as reference points for observers evaluating the position of fish within each arena. Water was filled to the level of the thick, black fittings and fish were placed at the bottom of clear, substrate-filled wells. After each fish was in place, gravel-filled tubes were fit over the wells and water was added to a height of 22.9 cm (measured from the base of the well). Observers left the enclosure and the experiment proceeded in darkness. Fish then experienced one of three magnetic treatments: (1) the ambient field, (2) a field in which the vertical component was inverted, or (3) an "intensified" magnetic field in which the same amperage of electric current was run through the coil system as was required to invert the vertical component of the magnetic field, but in the opposite direction.

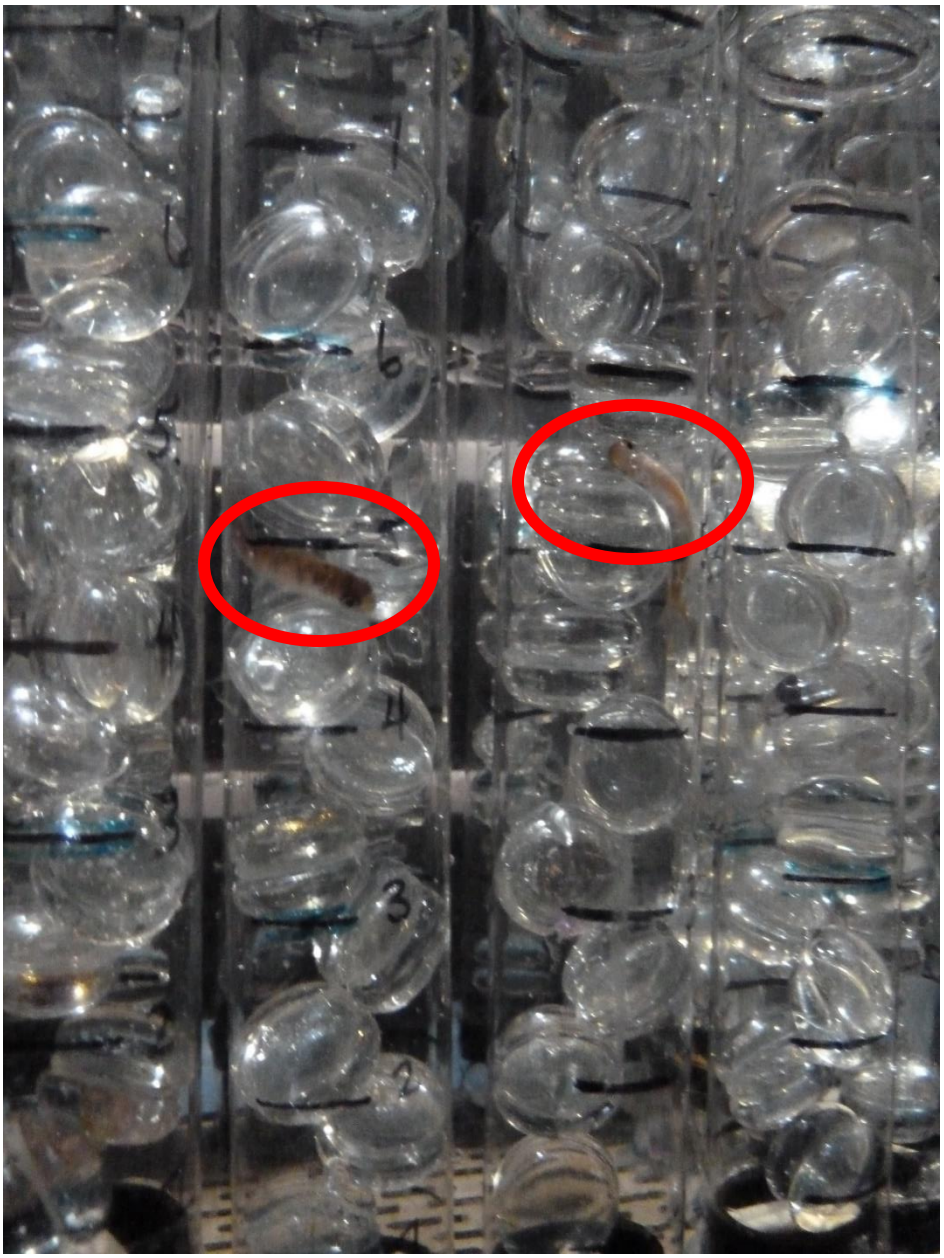

**Figure S3.** Close-up of test subjects (circled in red) located within cylindrical testing arenas.